RESTORATION ADVISORY BOARD

FOR

NAS JRB / ARS WILLOW GROVE

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Willow Grove, Pennsylvania
Wednesday, October 6, 2004

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Meeting held in the above-captioned matter at the Naval Air Station Joint Reserve Base, on the above date, beginning at approximately 6:00 p.m., before Kimberly A. Overwise, a Registered Professional Reporter, Certified Shorthand Reporter, and Notary Public.

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LAWYER'S NOTES

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PRESENT:

Jim Edmond

Russ Turner

Ed Boyle

Charanjit Gill

April Flipse

Jeff Dale

Yuriy Neboga

Scott Shaw

Kevin Kilmartin

Mark Stephens

Marge Johnston

Charles Gaffney

Christopher Snyder

Rick Cline

Jeff Killian

Mary Liz Gemmill

Rich Peffall

Jack Dunleavy

Pnaty Fli

Arnold Haggerty

Paul Ruppel

A G E N D A

1. Welcome Community Members
   Air Station Items/Comments
   Suggestions for RAB Mission Statement

2. Review and discuss the In-Situ Chemical Oxidation Implementation progress at Air Force POL Site

3. Review and discuss
   a. Soil Proposed Remedial Action Plan and Groundwater Remedial Investigation for Navy Site 1 (Privet Road Compound)
   b. Groundwater Feasibility Study for Navy Site 5 (Fire Training Area)
   c. Groundwater Report for Navy Site 10 (Navy Fuel Farm)
   d. No Further Action for Navy Site 11 (Aircraft Defueling Area)

4. Closing Remarks
   a. Questions & Comments
   b. Set Date for next RAB Meeting (12 January 2005)
   c. Meeting Adjourned

MR. EDMOND: I'd like to welcome everyone. The Navy and Air Force would like to welcome you back to NAS JRB Willow Grove for our Restoration Advisory Board meeting. Thank you all for coming. We have a lot of good stuff to talk about tonight. It looks like the Air Show is going to be Memorial Day weekend. It looks like The Blue Angels will be the main act. It's not etched in stone because the schedule doesn't come out for another month, but it looks pretty well etched in stone. The Navy ball's coming. If anyone's interested in attending the Navy ball, tickets are on sale. See the XO here. He'll make sure you get tickets to the Navy ball. He gets bonus points for every one he sells.

CPT. CLINE: So, Jim, you coming to the Navy ball?

MR. EDMOND: No, sir.

From that point, let's move on. We're doing a lot of good things environmentally. We have implemented our

EMS at Willow Grove. It's up and running. We're working on our EQA. The environmental side of the house is doing well, no notices of violation, so we're moving ahead.

Captain Cline here is the XO. He took Commander Rosene's spot. He'll be with us for one or two more RABs, but as he is a captain now he will get a major command and be moving on to bigger and better things. But he's our cochair until his replacement arrives.

In case you didn't notice, on the 17th of July, Captain Smith was relieved by Captain Harry Myers. Captain Myers is now the commanding officer and will be here for two years.

One other thing I wanted to mention, most of you folks weren't here at the last meeting. It seems like we have an A and B team. The A team is here tonight and B team was here at the last meeting. But there was some changes that the Department of Defense, the Under

Secretary, put out for the Restoration Advisory Board. I passed them out and gave everybody a chance to comment to the Secretary of Defense if they had any questions. One of the things that we do not have as a Restoration Advisory Board which they recommend we do have is a mission statement. I have some mission statements here which I distributed to the B team when they were here, so I'll distribute them to the A team. This is a Mechanicsburg Naval Support Activity Mechanicsburg mission statement. If you could in your free time in the next three months look it over and see if you can come up with an idea or ideas for how to do a mission statement for us. It's not essential that we have one. It's not a mandatory thing. But the Secretary of Defense suggests we do have a mission statement that kind of says what we're all about, what we're here for and what we're doing.

Besides that, I'm done. I'm

going to turn it over to the Air Force contractor or the Air Force to Mr. Gill. He's going to give a short presentation and he'll talk about his sites, we'll take a short break, and then the Navy's got a bunch of stuff to talk about.

So, Gill?

MR. GILL: Thank you, Jim. We do appreciate you guys coming. As you remember from the last RAB meetings, we do have only one active site on the Air Force side. And we are going to discuss that site. We're going to give you status and update on the remediation going on at that site. So I'm going to introduce Mr. Scott Shaw from Tetra Tech.

MR. SHAW: Did everybody get the handouts I have here? As Gill said, my name is Scott Shaw. I'm the project manager for the Willow Grove POL area site investigation. We're currently looking at some groundwater contamination that resulted from some JP-4 spills that took place in the POL back probably prior

to 1979. As was said before, this is sort of the A team. I see a lot of very familiar faces so I'm not going to go into a lot of background about the site. What I wanted to do was tell you the things we've done in the last year to nine months since the last time I was here. I want to go over some groundwater sampling results. We've collected two rounds of sampling since the last time I was here. I want to talk about the progress of our remedy.

This is -- I don't know if you all can see. The map on your sheet is actually pretty small. This is up in the northern corner of the Base. The tanks that make up the POL area are these two small circles here. And the dots that you see sort of extending out in the northwesterly direction are monitoring wells that we're currently using at the site. We use them for a number of reasons: to monitor the magnitude and direction of groundwater flow; to

maintain a record of groundwater contamination, see what dissolved contaminants are doing in groundwater. We monitor both the shallow groundwater and bedrock groundwater. In other words, we monitor the soil above bedrock and we monitor water in the soil above bedrock, and we monitor groundwater in the bedrock.

The next slide shows a couple things. Principally it shows the location of some of those monitoring wells again with the elevation of groundwater at those points. It also shows equal elevations of groundwater across the site. Up in what is the upgradient and the higher groundwater end of the site, we're looking at elevations of around almost 270 feet down to towards the -- closer to Graeme Park we're looking at groundwater elevations of about 242 feet. So groundwater also flows in a northwesterly direction. In most cases groundwater here -- well, in

all cases groundwater here discharges to the little park, what we call Park Creek tributary. It flows also to the northwest.

The two pictures that you see side by side are the results of groundwater sampling that were collected in September 2003, about a year ago, and our most recent completed groundwater sampling back in June and July. We are currently sampling groundwater again. We do so on a quarterly basis.

What this slide shows is a couple things. In September 2003 we had about four or five wells where we had detections of compounds of concern. PADEP has decided for jet fuels that there's a series of compounds that should be of importance in sites like this. Of that list of about ten compounds, there are two that we see again and again at the site or see again and again at the site above a regulatory limit. In this case, they're benzene and the compound

called naphthalene. About a year ago, our highest concentrations -- the bubbles, by the way, are a combined total of those two compounds. If you add the concentrations of benzene and naphthalene together and you were to express them as the size of a bubble, that size is reflected in this map. And the sizes are complementary across the two maps. If it was 5 parts per million over here, the bubble would be the same size as 5 parts per million over there.

A year ago the highest combined concentration -- also some of the highest concentrations we saw were in a downgradient well right here where the benzene concentration was 110 parts per billion and naphthalene was 67. The regulatory limits for those compounds are 5 for benzene and 100 parts per billion for naphthalene. So in September we had three wells that were above the detection for benzene, this well here, the larger one, another one here in the corner of

the POL area, and then one almost right on the fence line between the Base and the off-property area. A little bit has changed since then. Principally -- we had five wells then. We have four wells now. This small dot out here is a detection where we had about 4 parts per billion of naphthalene. We're not detecting benzene or naphthalene at that well at the present time. The concentration in this well here for benzene has reduced from what was 110 to about 9.1, actually very close to the regulatory limit. And the concentration of naphthalene has reduced some but it's right around the same concentration, about 60 parts per billion. The concentration of naphthalene again here hasn't changed much in this well, was 130, it's 120 now, and benzene has increased from about 6 to 14.

RAB MEMBER: Just a quick question. These numbers, are they single sampling or averages of more than one

sampling event?

MR. SHAW: It depends. As a part of any sampling event, we do quality assurance. We do duplicates, test our sample methods. I can't tell you which of these are multiple samples. We tend to plot or tend to stand by the higher concentration. We haven't had a problem with quality assurance either when we have collected duplicate samples. The concentrations are fairly the same within a margin of error for that specific testing method.

RAB MEMBER: Thanks.

MR. SHAW: The next thing I want to talk about is our remedial strategy. It's been some time since I talked here. We have sort of a two-phase approach to the remedy at this site. We still have some free phase product in the ground. And to address that, we have selected a process called chemical oxidation using something called Fenton's reagent with that process using a certain

amount of iron and hydrogen peroxide injected into the ground to destroy the free product portion of the contamination. Once that is accomplished, we intend to follow on with a process called biosparging, injecting a small amount of air into the ground to stimulate biodegradation of the dissolved phase contamination. And as always, the third bullet there for monitoring the impact of the remedy is carried on throughout the remedial strategy. We begin monitoring before we start chemical oxidation and will be monitoring long after or after we complete the biosparging phase of the investigation.

To accomplish both the chemical oxidation portion and the biosparging portion, we've installed a series of injection points in the pattern that you see here. Recalling from the earlier diagram, these are the two tanks. This is the POL area. This is the off-property area. We have a series of

areas across the site where we notice things like free product are higher than normal concentrations of dissolved phase constituents. And around those areas we installed injection points. Also so that we can accomplish monitoring while we're doing the injection, we're doing biosparging without interrupting the processes that are going on installed monitoring wells, small monitoring points in each -- those are sort of the open circles in the squares.

Let me actually leave that up there while I talk about what we've done in the past, what we're doing now, and what our plans are for the future. What have we done recently since our last meeting? We've completed two rounds of injection of some of the wells in Area B. This is actually a large area and managing an injection in all of those points at any one time would sort of be -- it's somewhat prohibitive. So we have selected about half of those wells

to run our initial injection in that particular area. We've run two injections there. The entire chemical oxidation phase calls for three injections in any one well. We've completed one round of injection -- complete injection in Area D in the center here. We have conducted baseline sampling. Remember I was talking about the monitoring we do in Area H. And we completed and are currently going through a groundwater monitoring session right now.

Any questions?

RAB MEMBER: This might be for Hal or Gill, but that's the off-site property; right? That's not on the Base property; right?

MR. GILL: Yes.

RAB MEMBER: And the current owners of that land are being cooperative?

MR. GILL: Yes.

RAB MEMBER: Real cooperative.

MR. SHAW: I can answer yes, he is.

RAB MEMBER: I'm glad to hear that.

MR. SHAW: What are we currently doing? I talked about we are currently injecting in areas finishing up that third round of injection in some of those wells in Area B. We're also working in Area D as well. We're not working this week. We had quite a bit of rain last week. We decided it was time to hold off, let things dry out for a week. We'll be back next week. We're conducting quarterly groundwater monitoring. And we are conducting what we call performance monitoring in wells in Area H.

Now, what do we have planned in the immediate future? Once we complete the injection we're currently doing in Area D, there will be for lack of a better term a latency period. We let the wells sit, let the pH come back up, let

the peroxide concentrations go down, and we conduct a round of groundwater monitoring in D. And we intend to complete the third round of injections in Area D. We are currently -- we just completed the baseline sampling in Area H here. We intend to complete the first and second rounds of injection in those areas, the first being in October and the second planned for December. And sometime after that we will begin the evaluation of which wells are best suited to begin biosparging in.

And with that, that's my presentation.

MR. EDMOND: Any other questions for Scott or Gill or Hal?

RAB MEMBER: You've got buy-in from the EPA and State on this for everything?

MS. FLIPSE: State.

MR. SHAW: It's a State-run -- the storage tank program is a State-run program and we brief them about once

every three or four months.

RAB MEMBER: How much impact does the amount of rainfall we've had play on the amount of benzene and naphthalene in the ground? Wouldn't that dilute some of it?

MR. SHAW: It does to a certain extent, but the other -- there are a couple things that come into play. It does to a certain extent, of course. It's an old site. We're dealing with a spill that probably happened back in 1980. What tends to happen there -- one of the things I didn't say about chemical oxidation is as the water table rises and falls, especially with something that floats like jet fuel or gasoline or diesel fuel, as it rises and falls and flows in and out of soil that it's been in and out of before, it develops something called a smear zone. So while it's true that there is some dilution, there's also some new contamination that can take place. You can pick up some of

that residual. You can pick up some of the free product that may have been isolated when the water table fell. In some instance, particularly for biosparging, if the water table rises, that's better because our screens are submerged deeper. We can affect a bigger area when we inject air than if it's very shallow. There are good things, clearly good things and bad things. At this point I think that they're better things.

RAB MEMBER: Would you say also when you see these levels of contaminants as being this level one time and that level another time that may not necessarily be a function of the time that's elapsed but the phenomenon you just talked about, rising and falling of the water table?

MR. SHAW: Absolutely. I agree with you. I mean, I can look -- we talked about the one well up in the corner that no longer shows a detection. We could have collected a sample there

two weeks ago and it could have minor concentrations of those compounds. I do not suspect that they would be above the regulatory limit, though.

MR. EDMOND: Anything else?

RAB MEMBER: Think we can eliminate the break?

MR. EDMOND: That's what I was going to say. Get that homework done. What we'll do now is do the Navy presentation. We have a lot to discuss. I'd like to introduce Mr. Ed Boyle. Mr. Ed Boyle is the remedial manager from Environmental Field Activity Northeast and Navy activity that assists us in our contracting and our remedial action as the manager for Willow Grove.

So, Mr. Boyle?

MR. BOYLE: I see a lot of new faces that weren't at the last RAB and when I overviewed the scope of work, what was basically a plan of action for what we're planning, the Navy's planning and EPA and State, for the next two years.

When I took over, I sent a synopsis or summary of where we thought we were at each of the sites and where we wanted to go. Based on that information, feedback from April and Lisa, who's not here tonight, Mark Stephens is here representing, based on that feedback I came up with a scope of work that outlined what we're going to do at Site 1, Privet Road landfill, which was prepare a PRAP for soil for no further action and complete an RI for groundwater. And tonight we're going to have Russ Turner discussing the Site 1 PRAP for soil and Kevin Kilmartin talking about the RI for groundwater. Also in that scope of work was Site 2, the antenna field landfill. We needed to complete an RI for that. We won't be discussing that tonight, but that is in draft form right now and we're reviewing it.

At the last meeting I noticed a lot of frustration with people that we

weren't moving along. And I know when I started about nine months or a year ago there was no funding for the project. And then even at the last meeting, you know, I had completed the scope of work to do this additional work which we'll be discussing tonight, but there was no funding for it. So since then we've locked in funding and we're moving ahead.

And finally in that scope of work was the Site 5 fire training area, the feasibility study, which also Russ will be discussing. We did discuss at the meeting the work we're doing at Sites 10 and 11 to try to close those sites out, and Jeff will be discussing the no further actions at this time documents that we've completed. So there's a lot of things on the agenda and I think we're moving ahead in a positive direction. We've had cooperation from EPA and the State getting back quick response, working with us to finalize these documents. And I think things are going

in a positive way.

So with that, I'll turn it over to Russ.

RAB MEMBER: Just one quick one. The draft RI for the antenna field, can RAB members review that?

MR. BOYLE: That's in rough draft right now. We're reviewing it. As soon as I have a draft --

RAB MEMBER: What do I do, call Jim?

MR. TURNER: It's Navy internal.

MR. BOYLE: We're reviewing it. As soon as it's in draft, we'll get you a copy.

MR. EDMOND: If it's done by the next RAB, there will be copies distributed then to save on mailing costs.

MR. TURNER: For interested parties.

MR. EDMOND: This is the proposed remedial action plans for Site 1

soils.

MR. TURNER: So we have these three topics we're going to discuss tonight. Kevin's going to get the middle one. I'll get the top and bottom. The first thing I'd like to do -- two things actually. The reason we have the proposed remedial action plan tonight is part of the Navy's installation restoration program. There are four sites at the Air Station. We're going to be speaking about two of them tonight. But the law requires a certain process, remedial investigation, feasibility study, and regulators know all those issues. The reason tonight's meeting was advertised as a public meeting is for a 30-day comment period required by law for the Navy's proposed remedial activity here. And comments will be incorporated, follow-on will be a ROD, record of decision.

RAB MEMBER: Thirty days starts today then?

MR. TURNER: I think we had it start September 30 running through October 30, something like that. It probably says it on the last page of your -- before the figures in there.

Okay. So let me just make sure --

MR. EDMOND: On or before October 27.

MR. TURNER: September 27 through October 27 then. If the public has comments, then they can be incorporated and will be part of the process that way.

Let's make sure we're all on the same page here. I have an aerial photograph and the USGS map. The sites we're going to talk about, to get your bearings, this would be Route 611, Horsham Road -- 467, is it?

MR. EDMOND: 463.

MR. TURNER: 463. The Privet Road compound site is up on this side of the Base to the east of the runways. The

former fire training area is on the south side of the runways. And those are the two sites we're going to talk about.

Okay. For Site 1 soil PRAP, I want to just give you an idea what we're going to talk about. I'm going to cover location, once again summary of past activities, potential concerns, proposed actions, how the public can obtain more information, and comment period we just mentioned, and sequence of subsequent events. The public can obtain more information -- probably mostly everyone knows already the admin record is maintained in the Horsham Township Municipal Building over on Horsham Road. Actually, you could almost spit there from the Air Station. In there are all the former documents, remedial investigation and feasibility study for Site 1 soils. Subsequent events, let's talk about those at the end.

Okay. You remember where we said Privet Road compound is. This is

actually Privet Road. It runs through the Air Station. This facility here, this region here, which is the current bowling alley if anyone's familiar with that -- I think we all are actually -- historically there were municipal waste transfer stations essentially here. In addition to that, there were PCB transformers stored somewhere in this general facility. And so there was soil contamination in this general vicinity here, including a couple spots in the middle of the asphalt parking lot. The type of contamination was polychlorinated biphenyls, PCBs. The groundwater in this area is shallow groundwater. And Kevin's going to be talking about that a lot, but the main thing is PCBs did not infiltrate. There's no contamination of PCBs in the groundwater. Surface water from this area goes through a drainage ditch here down to an intermittent stream here. It always seems to have water in it when I'm around. So there's a stream

here that goes out to the Air Force pond basically is what I would call it, the former pond, which is now the dry pond. PCBs generally -- this is the surface soil and near subsurface soil contamination we were dealing with. The Navy has done 2 or 3 feet excavation maximum I think, but they don't generally migrate. And in this case they've migrated very little because we sampled these surface water and sediment locations, found just one low level of PCB below regulatory concern. So it was felt then that this was a candidate for a quick removal, immediate removal, and the Navy prepared an action memorandum. And actually a removal occurred.

Now, for the law we're still required by EPA under the National Contingency Plan, NCP, to go through the process of public involvement. That's why we're here today. So for that reason a feasibility study was completed. It was called an EECA, Economic Evaluation

Cost Analysis, in which the alternatives were looked at. The no action alternative, which is required by law, is the baseline. The Navy looked at excavation with on-site treatment and disposal. That would have been on-site thermal treatment and disposal back into the same excavation hole, into the same dig. The third alternative looked at was excavation with off-site treatment and disposal. That means you take the soil out, treat it thermally and dispose of it elsewhere, you bring in new soil to the then empty hole in the ground. That was very expensive. Alternative four, excavation with off-site disposal in landfill, levels of concentration that we had here were such that they were fairly low. The range was up to about 50. There was a typical 5, 6, 10 parts per million in soil up to about 50. And so that's considered pretty low and it's permitted to be disposed in a landfill in Pennsylvania. So in this case the

selected alternative then was excavation with off-site disposal.

RAB MEMBER: Do you know what landfill that went to?

MR. TURNER: Off the top of my head, I don't, but we could find out. It would be certainly in the admin record.

Do you have that, Jim?

MR. EDMOND: Somewhere, yeah. It's in the administrative record.

MR. TURNER: It's not in our --

MR. EDMOND: It's somewhere close to your backyard, Rich.

MR. TURNER: So the actual soil removal based on the Alternative four having been selected was performed in June 1999. It consisted of soil excavation in stages, confirmation sampling with analyses sent to the laboratory with quick turnaround to make sure that the excavation was complete. DEP was on-site. Tetra Tech had a supervisor on site, technical representative on-site. The actual cost

was 740,000. The excavation was somewhat larger than planned. And the other reason the cost went up, I think this number includes administrative costs, all administrative costs, for instance, the laboratory analysis and things like that.

And that's really about it. If there are any questions about the law or about contaminants or the cleanup. If not --

RAB MEMBER: Just a clarification. You just showed us what was done years ago. That was all removed. But what's happening tonight is you're putting out a proposed plan saying now that we've done that, we don't have to do anything else.

MR. BOYLE: Right.

RAB MEMBER: I just want to make sure everyone understands that.

MR. TURNER: I think that's a good point. No further action.

MR. EDMOND: This document is so we can take the site off and say this

site requires no further action, we're doing no further remediation as long as the site stays as it is now.

RAB MEMBER: And there was testing done after that removal?

MR. EDMOND: There was testing done before the removal, during the removal, and there was continuing sampling until we got to permissible levels. And that's when we stopped and backfilled.

MR. TURNER: In addition, the Navy prepared a final report of the cleanup and it was accepted by the parties.

MR. EDMOND: This is basically to dot the Is and cross the Ts to take it off the NPL list.

MR. TURNER: Are we okay for Site 1 soils? We'll move into Site 1 and grander vicinity groundwater with Kevin.

MR. EDMOND: Thanks, Russ.

This is Kevin Kilmartin. Kevin Kilmartin is a hydrogeologist with Tetra

Tech.

RAB MEMBER: One of the best hydrogeologists in Pennsylvania; right?

MR. KILMARTIN: Okay. I'm done. No. I guess, as Russ said, what I want to do tonight is just give an update on the status of the groundwater investigations that have been ongoing at Site 1, the Privet Road compound. And what I'll do is we'll review the existing site interpretation that was presented in the RI report that was submitted in July of 2002. I'll discuss some additional data that's been obtained from some new monitoring wells that were installed subsequent to the submission of the RI. Those wells were installed last year in 2003. And then I'll discuss the impact of these new data on our interpretation of the site and how it changes or doesn't change our existing conceptual site model for the groundwater at Site 1. And what I'm going to do is really just jump directly to the conclusions. I'm not

going to present a detailed discussion on how these data led to the conclusions that I'll present. The technical document that goes through the technical reasons for or the interpretation of these data that led to these conclusions has been submitted to the State and to the EPA and that document's currently undergoing regulatory review.

RAB MEMBER: What document is that, Kevin?

MR. KILMARTIN: I don't know the name of it. It's a draft.

MR. TURNER: Draft RI addendum for groundwater.

MR. KILMARTIN: So what I'll do first again is just get everyone back up to speed on our interpretation of the site conditions here. This is the same USGS Base map that Russ showed you just before. It's just been annotated with a lot of hydrochemical and geological data. This figure is from the RI report so you probably have seen it before. I just

want to orient you and point out a couple of the site features. Here's Site 1, Privet Road compound. Here's Site 10, the fuel farm. And these are the two Navy supply wells that are located adjacent to Privet Road, supply wells No. 1 and No. 2.

MR. EDMOND: For those who don't know, that's our drinking water supply wells. We produce our own water. We are a Pennsylvania certified water producer.

RAB MEMBER: You're still stripping that water too?

MR. EDMOND: Yes, we are.

MR. KILMARTIN: Now, of course, these wells are impacted by chemicals, chiefly what we call volatile organic compounds or I'll just call them VOCs tonight for short. The four most abundant chemicals are TCE, PCE, 1,1,1-TCA, and cis1,2-DCE. I know that's just a lot of letters, but those are basically the four chemical compounds

that are found most often in these wells. Now, if you remember, what the RI concluded was that these wells are actually being impacted by a series of coalescing or merging groundwater plumes that are either traveling or migrating naturally through this area under regular groundwater flow conditions or are possibly being pulled into the area by the pumping of the wells. One of the major conclusions of the RI was that contrary to previous interpretations, the Privet Road compound or Site 1 is actually not the major source of those VOCs. Based on multiple lines of evidence that I won't repeat tonight, the RI concluded that the major or most significant source of these VOCs appears to be an upgradient or off-site location that the RI concluded was probably somewhere in the general vicinity of the former Kellet aircraft facility, which is right here.

Now, the RI did also indicate

that there were on Base several possible minor or lesser source of these VOCs. And these included a potential minor source of TCE and PCE somewhere near or in the near vicinity of supply well 1 and the public works building. It also concluded that there was the possible minor source of TCE in the Privet Road compound itself. And it interpreted a potential minor source of TCE somewhere to the southwest of Privet Road or possibly in the general area of the fuel farm or upgradient of the fuel farm.

The RI also indicated that the delineation of these individual plumes and the identification of the source of these individual plumes was very difficult because of the complex hydrogeology here at the site. If you remember, basically there are two aquifers. There's a shallow unconfined aquifer and a deeper semiconfined aquifer that what we mean by that is it generally is isolated to some extent from the

shallower groundwater. And both of these aquifers respond differently to the pumping of the supply wells. And the RI also indicated that the interpretations that were made in the RI were constrained to some extent by a lack of data in some areas, either being a lack or an absence of monitoring wells or if wells were present, they were shallow wells that were only monitoring that upper or unconfined aquifer and really weren't telling us anything about what was going on in the deeper semiconfined aquifer.

So because of these data gaps, the Navy in 2003 installed additional monitoring wells to address these gaps and try to fill in some of the spaces there. Two new monitoring wells were installed adjacent to the public works building here. They consisted of a monitoring well cluster that consists of a shallow monitoring well and a deeper well to monitor the semiconfined aquifer. In addition, three new wells were

installed here in the vicinity of the fuel farm or Site 10. These three wells each were deeper wells to investigate the semiconfined portion of the aquifer. And these wells were paired with existing shallow wells to basically create three new monitoring well clusters. Now, these wells were each sampled twice. There were two sampling rounds. And these were conducted in June of 2003 and early this year in February of 2004. And what we did was we looked at that data relative to the existing data that was collected during the RI and interpreted that data relative to our existing site model.

Again, now what I want to do is jump directly to the conclusion and what we found. And what we found by sampling these wells, first I'll talk about this area here in the vicinity of the public works building. It does appear that there is a minor source of VOCs in the general area of either the public works building or in the vicinity of Site 1.

The VOCs, some VOCs were detected in the unconfined aquifer in this area at very low concentrations. And I'll just -- I can read them off quickly. It was TCE at 0.2 micrograms per liter with a microgram per liter being 1 part per billion, 1,1-DCA was found at 4, and 1,1,1-TCA was found at 6 micrograms per liter. So these were all very low detections. PCE was not detected in either of the two new wells that were installed there. So, again, it does appear that there is a minor source of VOCs in this general area, but confirming the interpretation, existing interpretation from the RI, this area is certainly not the major contributor to the chemicals that are being detected in the drinking wells or the supply wells.

The second area was Site 10, the fuel farm. And the major conclusion there was again the RI had hypothesized a potential source of TCE somewhere in this area. The new data indicate that the

fuel farm is not a significant source of TCE. There may be a very minor source of TCE somewhere in the northern or northeastern quadrant of the site there based on some very low levels of TCE that were detected in the shallow wells, but again these are very low, 1 microgram per liter or less, in most cases less. Several VOCs were found in the new deeper wells that monitor the unconfined portion of the site, including TCE, PCE, and 1,1-DCA. Our interpretation of those data are that what we're seeing there is actually basically the fringe or edge of the groundwater plume that's migrating from this upgradient position. Of course, in a plume typically the highest concentrations are found in the center of the plume, and then as you move out along the edges the concentrations get less and less. And we think what we're seeing there in these new wells are by these lower concentrations the edge of the plume that's migrating from this area

here.

So, in conclusion, several potential minor sources of VOCs we think have been delineated by these new wells, but really these new data are basically just confirming the interpretation that we made in the RI. And again that is that the major source of these chemicals is coming from somewhere upgradient and off-site. And again we believe it's somewhere in this general area right here.

MR. EDMOND: Kevin, with TCE and PCE being so prevalent in all the water in Montgomery and Bucks County and with all the water authorities stripping their water for PCE and TCE, how can we say that TCE or PCE is not just latent PCE that's being pulled on station by our wells? I mean, we pump over a million and a half gallons a month from our wells.

MR. KILMARTIN: Well, that actually is what we think is happening is

that that is coming from off-site here. And, you know, again, without really getting into the nitty-gritty nuts and bolts about it that's discussed in the RI, what we do is by looking at a network of monitoring wells, both upgradient or upflow from our site and on the other side after that groundwater has passed through the site, in addition to background wells and side gradient wells, it's really a jigsaw puzzle of all of these different pieces of data that we merge the chemical data with our hydrogeologic flow conditions to try to determine, you know, basically which way that plume is flowing and then track it back to where is it originating or starting. And what we found here was exactly what you just discussed, that this groundwater has been -- the groundwater here is basically flowing in this direction or perpendicular to these blue lines. And what we found by looking at the off-site data is that this

groundwater has been significantly impacted before it's ever even flowed onto the Base.

MR. EDMOND: This question I guess is for the group but to Ed. Is there any thought of us putting wells outside the fence line to basically prove the hypothesis that this is an off-site contamination?

MR. BOYLE: We haven't discussed that. I mean, there's going to be an issue when we move ahead on what we're going to do with the site.

RAB MEMBER: The Navy can spend $2 million to say the problem's not theirs, I guess.

MR. EDMOND: Well, that's what we're trying to avoid, but sometimes the community wants proof that it's not us because we are the government. And I'm just trying -- so the community knows what we're trying to do.

MS. FLIPSE: The state -- sort of kind of as soon as I get a spare ten

minutes that I need to get out there and really start looking around that area, it's probably going to be a State investigation of the area that we think is the source that's coming on the Navy base. It sort of got started and the person who started it retired. And it's my project and I've been a little busy this summer, so it got put on the back burner again.

RAB MEMBER: Jim, wasn't it discussed at earlier meetings that there has been targets identified outside the Base, but they weren't subject to the strict government regulations that the Base is?

RAB MEMBER: Unless they have studies like this that kind of point that way, then that can be pursued.

MS. FLIPSE: We know there were releases we know in the past that were never made into an enforcement kind of site.

MR. DALE: Well, we also wanted

the additional proof to protect us that it was not us. These two or three potential minor sources that Kevin discussed on Base are all below the drinking water standards. So even if that contamination was there and it was caused by us --

RAB MEMBER: I just don't think we should get into a situation where the taxpayers like you said are going to spend $2 million to prove the problem is not the Base.

MR. DALE: And we've done enough to show we don't think we contaminated our wells, we're pretty sure it's them. We know PADEP has limited resources and whoever owns that property may not have any money, but we're just trying to show it's not us.

MR. EDMOND: And let me caveat what Jeff just said. This is probably the most studied site on the Air Station. There's more wells sunk here, more sampling done here, this is where we've

actually taken our pumps out of our drinking water wells and what we've done is photographed the wells so we could see what the fractured bedrock looks like and where we're drawing water from. We would pump one well while putting the other well on hold because right now our pumps work in tandem, but we would take one pump off I think it was 48 hours, 72 hours.

MR. TURNER: It was more than 24, yeah. It was either 36 -- yeah, around there, 36 maybe.

MR. EDMOND: And what we would do is see what impact that well had, how it was drawing, where it was drawing from. Then we went over and did it to the other well so we could take comparisons to see how our wells were impacting the groundwater supply. So just so the community knows, this is probably the most studied site on the Air Station.

RAB MEMBER: I'd like to point

out the irony going on here too is with contaminated groundwater, one of the ways to clean that up is operate a pump and treat where you pump the water out and get rid of it. Navy's effectively been doing that and has been doing so for, what, 20 years. With their air strippers, they get rid of it.

MR. EDMOND: And Horsham does the same thing.

RAB MEMBER: So there's already a remedy in place for this problem.

MR. EDMOND: I just want to be clear to the community this is a bigger overlying problem than just the Navy problem. It's a community, Montgomery, Bucks County, Horsham, Hatboro, Warminster. All of us are in this one together.

MR. BOYLE: At a minimum, we're going to have to at least document what's out there and probably put some kind of an institutional control on the area so that there's no additional. I don't

think the further action we do out there we're going to have to discuss with the State and EPA, but you have to at least document the contamination's there. You can't just walk away from it.

MR. EDMOND: Any questions for Kevin?

(No response.)

MR. EDMOND: Thanks, Kevin, great presentation.

I guess we'll go back to Russ for the feasibility study for Site 5, fire training area. The fire training area was the area that the community deemed we should work on first because it was nearest the fence line. That's why the feasibility study we put our eggs in this basket monetarily. We chose this as the first site to really attack because money as Ed's said's been tight, but the community deemed this one the hot site so this is the one we're pursuing.

Russ?

MR. TURNER: Along those lines,

Jim, I do want to talk about location, but before we talk about what a feasibility study is and how it fits into the scheme, this is the fire training area here. Thinking back on the issues we were just talking about, TCE and other similar solvents endemic in the groundwater, there is a pumping well, Horsham Township well No. 26 is here and you can see the scale. That's 3,000 feet. I think it's about 2,500 feet. It's about a half mile distance. That's one of the reasons RAB said let's look at that right away. The Navy did some things, for instance, installing wells in intervening locations and depths to ensure that no contamination was moving toward the well.

MR. EDMOND: And if I could add, there are a number -- the community brought to our attention years ago a number of hand-dug wells along Horsham Road. We went out and sampled those wells to make the community satisfied

that our contamination wasn't getting into their water supply, which we proved, but we even did find something that wasn't ours that was in a gentleman's well which we notified PADEP and they helped him with. But in case the community doesn't realize what a fire training area is, in yesteryear we'll say, in years gone by, the '40s up through the '80s, the fire training was an area you put fluids, lit them on fire, and the fire department practiced putting them out. That's good for the fire department, not so good for the environment because a certain amount of these burn off and a certain amount mix in with groundwater and drop into the soil and into the groundwater. And that's the problem we're at now.

Okay, Russ.

MR. TURNER: Okay. We just really covered summary of past activities, fire training activities, but importantly storage. I want to talk

about storage of the solvents that would be used. Typically, they would be in drums and those drums tend to leak. The sun beats on them, liquid expands, escapes, et cetera. So if you did it for a number of years as was performed here, maybe from the late '40s, '50s, and '60s, maybe even first couple years in the '70s I think is when it ended, so you have a large number of years for contamination to have occurred. So then we'll talk about the remedial alternatives like we did for the PRAP at Site 1.

Okay. So I think everybody might want to know where were the drums. We know from record where they were stored. It happens to be in the vicinity of monitoring well 1. There's a three-well combination there for the different depths like the geology is similar to what Kevin was describing at Site 1. The drums were stored here and that's where the highest concentration of the solvents were found, chlorinated

solvents including TCE, the same sort that Kevin mentioned. We wanted to talk about these are the monitoring wells the Navy installed to the different depths to check on the extent of the contamination, found out there's a groundwater plume generally in this vicinity.

In this case, surface water in this case, let's just talk about the features here. Where does groundwater flow and where does surface water flow? I think it's important to talk about. There's a real special feature about this part of the facility. It's unique. It's one of the things that makes this site so interesting. USGS has identified a regional groundwater that happens to coincide with surface water divide that runs exactly through our site at the fire training area, which is right here. This is the fire training area. This is Horsham Road. This is the little neighborhood where Horsham Township well 26 is located.

What's the significance? Groundwater flows literally right down the middle of the Site 5 and surface water would run this way presumably to the Neshaminy down this way to the Pennypack Creek. Likewise, groundwater across our site, one of the other features that happens since we're located on a groundwater divide, there's hardly any force. There's very little tilt to the groundwater. It's a flat groundwater surface down there so it doesn't tend to flow. So our plume tends to go deeper than wide and that's what we've seen out there by our investigations.

What else do we want to talk about? We talked about surface water, fire training exercises, and storage. The compounds of concern we talked about are the same chlorinated solvents that seem to be found generally around the area. However, we can identify the historical source right here. We know where it was. The media of concern is

the groundwater plume itself. It's not surfacing. It's going deeper. And the concern would be it could reach water supplies.

So in the feasibility study process of the remedial investigation where we are now, the Navy looks at technologies, looks at alternatives, and puts those together to make remedial alternatives. Everyone okay with that approach? Alternative No. 1 like I mentioned for the proposed remedial action plan is required by law, the no action alternative, has no cost to it but there's no additional protections. It's evaluated along with all the other alternatives in the process.

The Alternative No. 2 that our feasibility study identified is monitored natural attenuation. That's allowing the plume to continue its present course. We tend to think -- and Kevin would have to talk about this, but we tend to think that the plume currently is in more or

less a steady state condition. The studies that we've done in conjunction with United States Geologic Survey, USGS, imply that the plume itself if you remember where it was was not -- is not being drawn toward off-site locations.

And so the Alternative 3 that we looked at and the corresponding cost was what Jack was referring to as a pump and treat. You sink some wells in there. You pump the water out. You treat it above ground with generally an air stripper, capture the chlorinated solvents and that gets disposed at Calgon in Pittsburgh at some future date by incineration, and you return the water either to the ground or in this case since the Navy has a large water treatment plant that's running at low capacity, you maybe return it to that place since it's cheaper. But, anyway, the cost of that was fairly expensive.

In-situ biological, if you remember, we did this FS once before so

this is a revised FS. The RAB wanted to know why we weren't considering -- we, the Navy, the Navy and its contractor weren't considering the new technologies out there. And in response, I mean, that's really why it's been redone. We're considering biological and chemical in-situ treatment schemes.

Okay. And I just want to note here -- there was a space here. Each of the alternatives below the no action include institutional controls. That means land use controls to ensure that the groundwater isn't used for human consumption or really any other and long-term monitoring, five-year reviews, groundwater sampling and analysis.

RAB MEMBER: Question on the off-site wells. I know that years ago there was concern and they were looked at. Was that the only time?

MR. TURNER: You guys went door to door.

RAB MEMBER: Is that the only

time?

MR. TURNER: Not since, no.

RAB MEMBER: Is there any consideration into looking at it again, especially under a long-term monitoring program?

MR. EDMOND: I'm not sure because the modeling shows it's dropping faster than the wells are deep. It's like an inverted mushroom. Instead of spreading at the surface and going down like a funnel, it's going straight down and then moving out as it gets deep. These were all shallow hand-dug wells. Mostly it was really not groundwater in the wells. It was more like subsurface water I would call it.

MR. TURNER: There are two things there. We've concluded -- and I wasn't good at this. Remember where the drums were stored? We concluded that there's a diminishing source there. There's a low level source. There's no like Scott was calling residual product.

There's not what we call DNAPL. There's no undissolved product there like a source that when the water flows in, goes up and down, it recharges. No, it doesn't seem to be happening. We believe -- we don't quite have enough data to say this, but it appears to be in a steady state, maybe it's receding. But we did a recent round of groundwater there. We have a draft report. It hasn't been to Ed's hands yet. It does seem to indicate, if anything, the fact -- the assertion, our assertion that we're probably in a steady state or moving backwards with the shape and size of the plume. It's getting smaller maybe. So does that help that question?

RAB MEMBER: It helps, but I would still say that, you know, it's nice to have some sampling to bolster that sort of conclusion.

MR. TURNER: It's tough to get the off --

RAB MEMBER: I'm not saying you

necessarily have to go off-site. I believe the wells are --

MR. EDMOND: We have taken those. We did that this year.

RAB MEMBER: They continue to be looked at?

MR. KILMARTIN: Oh, yes.

MR. EDMOND: The sentinel wells, we monitor them yearly. That's part of our lab contract, our yearly lab contract, haz waste lab water testing, wastewater testing, sentinel lab testing.

MR. TURNER: We put a sentinel well as close to the Base property as we could in a line. We figured groundwater flows to the southwest here generally, also to the northwest because of that crazy divide we mentioned a few minutes ago, but what we're concerned about is the southwest toward that well. There's a cluster of three wells to intercept that groundwater and so it's simple to sample. And it's sampled on an annual basis. It's remaining about the same. I

can't say it's going down.

MR. EDMOND: To summarize an answer for you, we do test on-Base sentinel wells along the fence line at Site 5. As you know, it was too hard for us to go out. A lot of people did not want us to test their water.

RAB MEMBER: I remember.

MR. EDMOND: It took a lot of persuading to get six people along Horsham Road to allow us to test their water. And one person got lucky. He found out he was drinking something he shouldn't have been drinking that was coming from a source other than the Air Station and we got him help. But we're not going to try and do that again. That was time-consuming, costly, but it did help.

RAB MEMBER: When I mentioned that sampling, I was not necessarily referring to going back to the private wells. I was more concerned with the sentinel type of concept.

MR. TURNER: You think that's enough under control?

MR. EDMOND: Horsham is basically the same as our wells. These are shallow home wells that aren't even on the map as far as Horsham Water and Sewer Authority. How we found them --

RAB MEMBER: Two people had to go door to door.

MR. EDMOND: Jack and I when Jack worked for the Navy went door to door asking people to call us if they had a well.

RAB MEMBER: Was this funding already approved?

MR. BOYLE: Yes. Right now we have money in the '05 budget which is now, September 30, to do design and --

RAB MEMBER: Are you leaning towards a proposed alternative?

MR. TURNER: My last point is in the process we're under, the legal process we're following, we're not recommending anything at this point.

There's not a selected or the Navy could say if they're leaning. Maybe biological. It looks promising, biological, according to our engineers.

MR. DALE: We're leaning towards biological. PADEP and EPA still need to review the report. Then we would still have to have the proposed plan and public meeting before we would decide on that, but since the last proposed plan involved the public suggesting we try biological or chemical, we feel we're meeting their suggestions pretty well. But nothing is set in stone.

MR. EDMOND: Another consideration everyone should know, besides the money factor, each one of these have a different time factor involved, some of them as little as ten years, some of them as high as 25 years.

MR. TURNER: That's a good point.

MR. BOYLE: Alternative 5 was I think 15 years.

MR. TURNER: Alternative 5 was 10 to 15 I think, something like that. Alternative 2 was fairly on the low side.

MR. EDMOND: Eight to ten years.

MR. BOYLE: It's longer. Alternative 2 is longer.

MR. TURNER: I'm sorry. I'm saying 2 meaning 4.

RAB MEMBER: Is that cost projected out over 15 years?

MR. BOYLE: The cost for '05 in the feasibility study is projected, but the cost that I have funded for this year is for the design and remedial action.

RAB MEMBER: In reality, the Alternative 5 over a 15-year period may cost ten times that.

RAB MEMBER: I think those numbers do include the projection out.

MR. TURNER: Present worth analysis.

MR. BOYLE: Design and remedial action this year.

MR. TURNER: These numbers include design construction capital costs and monitoring.

RAB MEMBER: You're guaranteed once you start that program it continues for 15 years or whatever the required time is?

RAB MEMBER: As long as the Navy's still in business, I guess.

MR. BOYLE: It's in the budget now to do this work. There's no guarantees I'm going to a hundred percent get it this year, but it's in the budget and typically we get it. Just like when I discussed at the last RAB our plan of action. This work was not funded to do the work at Site 1, 2, and 5, but it became available. And my experience the last ten years as an RPM, if you get in and get it scoped out, you'll get it funded. I can't promise you that, but any kind of LTM type work if we were going to institute something, that money is almost guaranteed. I can't say that

it would be -- or long-term operations, rather, of a remedial action, that money is typically almost guaranteed.

RAB MEMBER: They become operational costs at that point from year to year to year.

RAB MEMBER: The project in '99 was almost double.

MR. TURNER: That project changed. The deal there was the project changed. It did. But, yeah, that's a good point. It's true.

MS. FLIPSE: That one doubled in price because the removal -- the decision was made during the removal to go down to a much lower number in the postexcavation samples.

MR. EDMOND: We brought it back to almost pristine. We were there. There was a hot spot. And instead of just digging a hole at the hot spot, we decided to keep going and take it all. It cost more, but it assured the Navy that site was clean and we were done with

it.

MR. TURNER: That's a good point. The cleanup level was 1 part per million for PCB with the state direct contact residential level being 5, but 1 is a number around the industry that's considered very, very protective and probably never get called back and have to redig up anything. That's why the Navy chose it. Plus, when we had a pretty good idea of where those concentrations were, we said it's feasible to go to 1 PPM, so the Navy did.

MR. EDMOND: Once we got started, it would have cost more to stop it and start again. So the money was there and we continued. The site is a closed out no further action site. So even though it did cost double, it's successful because we did clean the environment back up to the condition it was when the Navy bought the property back in the day.

MR. TURNER: Could I backtrack?

One thing on the PRAP I failed to say, with the process that we're talking about, public involvement, on Page 7 of the PRAP that you have are the names and addresses of people you can contact with comments. The Navy does want to see comments. EPA does want to see comments. As you can see on the FS, for instance, at Site 5, the Navy's responsive to public comments.

With that, I think I'm through.

MR. EDMOND: Send the comments to Ed. Leave my name out. I'm only kidding.

RAB MEMBER: I have a quick question. Your map that you have the USGS quad and had all the information on it --

MR. TURNER: That one?

RAB MEMBER: No.

MR. EDMOND: The hydro map.

RAB MEMBER: You showed a yellow area. There it is right in the middle.

MR. TURNER: This will be for Kevin maybe.

RAB MEMBER: The stratigraphic unit, how does that impact what's going on? I don't remember you saying anything about that.

MR. KILMARTIN: Well, I didn't discuss it tonight. It's an integral part of the RI that was submitted in 2002. I talked earlier about jigsaw puzzles, about there's just all different kinds of data out there that we have to try to put together to come up with an integrated interpretation or conclusion. And what that is, the USGS -- as Jim discussed before, the Navy literally pulled the pumps on these supply wells to give the USGS access to these wells and they spent many days out there doing a lot of interpretations, pumping, video camera, and doing a bunch of what we call geophysical logs where they look at the electric signature of the formations.

One of the things they

noticed when combining the chemical information that they got from the well, what they did is they went into each of these bore holes and did what we call packer tests where basically you go into the bore hole and you inflate packers to isolate certain depth intervals. And as you go down the well, you see that the well's not homogeneous. The contamination's not distributed evenly throughout the bore hole. There's zones that aren't so contaminated and then there's zones that are much more heavily impacted. And what the USGS found when combining the chemical data and the geophysical data from both of these wells and making their interpretation was that the most heavily impacted zone in each of these wells was basically the same rock layer, the same rock unit. Now, one of the things we've discussed I know in past meetings is the fact that the rocks beneath us right here, they're not perfectly flat. It's not just a series

of horizontal bands or layers of rock. The rocks beneath us actually tilt.

RAB MEMBER: What's the unit name?

MR. KILMARTIN: The formation name is the Stockton formation here. These rocks are tilting to the northwest beneath us. So they're tilted like this. You see that if you drive up the northeast extension going up towards Allentown. You go through a series of really nice reddish-brown rocks. That's the Stockton formation. And one of the things you probably noticed again is these rocks are tilted. And that's exactly what we're seeing here. It's just underneath us beneath the ground. So, again, the USGS found that there was a particular unit that seemed to be much more heavily impacted than any of the other units all up and down the bore hole. What we did was knowing the rates that these rocks dip, we just started where we know they are and backed our way

up to see where did those rocks intersect the surface or what we call outcrop or cropped out. And that's important because one of the things that a lot of scientists who study the groundwater in this type of setting, it's called the Triassic basin, one of the things they've concluded is that one of the -- well, let me backtrack for just a second.

We discussed before the fact that this deeper water is semiconfined or sort of isolated from the surface. So it's hard for groundwater at the surface to get through all of these rocks and get down to this area here because there's less permeable strata in between that block that water. So one of the things that scientists have found or concluded about this type of area is the way that that contamination can get down there is by being introduced into the shallow groundwater where that unit intersects or crops out. And then that contamination basically just travels along that rock

route to get down to that depth.

So what we did here again just looking for another piece of the jigsaw puzzle was say, okay, we know which layer is the most heavily impacted. Let's track it back up and see where it crops out, which is potentially the area where those chemicals are being introduced into that rock layer. And because the rocks are a layer, you can imagine a layer cake and you tilt it and then cut it flat. What you'd see is a series of bands of the different layers. This band here is the outcrop area of that stratigraphic unit or rock layer that's most heavily impacted here. And what we saw when we projected that is, in fact, it intersects the surface right in this vicinity here by the aircraft area. And this again is just one of these many pieces of the puzzle that we used to come to the interpretation where we are right now.

MR. EDMOND: Kevin, that would almost be like a natural inverted

aqueduct?

MR. KILMARTIN: Yeah.

MR. EDMOND: Other questions?

(No response.)

MR. EDMOND: We'll move on to Sites 10 and 11, Jeff.

MR. DALE: Thanks. I'm going to try and keep it brief since I didn't make up any slides. My name's Jeff Dale. I work with Ed Boyle for the Navy, remedial technical manager, so I handle more of the technical details in the soil and groundwater sampling. I wish our contractor EA could be here this evening because they did all the work for the project and I wanted to thank them, but next week is about the end of their contract for us so they're already moving onto other projects with the Navy and other clients and they couldn't really be here. And I wanted to thank them, not that I want didn't want to give a presentation.

I'm going to talk about Site

10, which is the Navy fuel farm, which surprisingly had some fuel releases just like the Air Force fuel farm. And because they're fuel releases only, we're working with PADEP on the cleanup of it primarily. So it's mostly fuel-related compounds for the old Navy fuel farm that was excavated around 1990, 1991. A new fuel system was built on top of the site of tanks that meet the current standards that are now above ground. So we were dealing with residual fuel in the groundwater, floating on the groundwater, and some dissolved in the groundwater. We operated a remedial system for a couple of years that removed a few thousand gallons of fuel, pure fuel and dissolved fuel. Then we wanted to get the sites closed out under the PADEP laws. And what we've concluded is that as long as it remains a fuel farm, we've been protective of the environment. We haven't met all of the stringent requirements that PADEP has such as you

need somewhere between four and eight clean groundwater sampling rounds before you can say no further action. So PADEP has agreed for no further action at this time for Site 10. There's no risk to the humans or the environment. And the groundwater is not flowing anywhere off Base just as we discussed at Site 1. Any residual contamination here has to go about 1,500 feet or 3,000 feet. And in 30 years, that would not impact anybody. So we're choosing to just take no further action at this time as long as it remains a fuel farm, which we believe that it's going to be for the foreseeable future.

And Site 11 was right next to Site 10 where contamination was discovered when the Air Force was building this building here, which is a lot larger when you get down there. And they excavated some contaminated soil. And we determined that the source was an adjacent area where they park airplanes. In years past, they would drain waste

fuel out of the airplanes before servicing them. And it looks like when the Air Force built that building and regraded the land, they removed all of the contaminated soil at that time because when EA went out to collect soil samples and groundwater samples, they met all of the PADEP standards and PADEP said you don't even have to make that a site. It's clean enough for us.

So I tried to keep it brief, but I will definitely answer anybody's questions if you want more detail.

RAB MEMBER: Jeff, just as a clarification, could you explain -- well, I'll just say we don't have to go through the rigorous process of comment period and everything for these decisions. I just want to make sure everyone knows that.

MR. DALE: Yes. PADEP calls it Act 2. That's their cleanup standards that apply to non-Superfund sites. And we're only following that procedure for

these two sites because they were fuel-related only, just like the Air Force is doing. Now, we have to propose taking no action to PADEP and they have to agree to it, which they have and we've only recently received a letter agreeing that the sites are protective of human health and the environment now. The problem is to completely close them out we would need to collect soil samples under the current Navy fuel tanks, which is infeasible to say the least to close out a site that PADEP and us agree pose no risk. If there was a day care center there, it would be a different story. There's a fuel farm there. It's always going to be a fuel farm. So we're making the progress of closing out Sites 10 and 11 and we won't have to bore you with any more details on those sites. We can focus on the more contaminated sites such as 2 and 5 and groundwater at Site 1. So we won't have a proposed remedial action plan for this site. We're just choosing

no further action.

Like I said, I was trying to be brief because I knew I got put on last, but I'll be happy to answer any questions.

MR. EDMOND: No further questions?

MR. DALE: No further action.

MR. EDMOND: No further action.

MS. JOHNSTON: I just wanted to take an opportunity and introduce myself. I'm Marge Johnston. When the Navy regionalized and we're under the Navy mid-Atlantic, one of my responsibilities is compliance, environmental compliance. I'm head of the department which includes Naval Air Station Joint Reserve Base Willow Grove. So Jim and his group work with me and I also have responsibility for Mechanicsburg, South Philadelphia, and Northeast bases. So I just wanted to introduce myself. I probably should have done it in the beginning. And I have some cards here. If anybody needs

anything at any time, call me. I have about 15 years. I know some of the people, Mark Stephens when he worked at the shipyard and Ed Boyle and Gill, and there are a few other shipyard people here. So it's my first RAB meeting and it was very interesting, very interesting. A lot of the things that we talk about at these meetings we cleaned up and did down at the shipyard because we had fire training schools and those have been done there. We touched on a lot of things that we will be doing here as well. So thank you.

MR. EDMOND: Thanks, Marge.

The only other thing is if anyone's interested, I have a couple copies. This is the Department of the Navy's book on all the cleanup sites within the United States, where they're going, the cost, the amount of years, et cetera, et cetera. It tells you all about the IR program. I think I have about two, three copies.

RAB MEMBER: You can donate one of those to the new Horsham library.

MR. EDMOND: We'll put it in the repository. When money becomes available, we're trying to put it on CD so it will be on CD, digitized because we have a problem with real estate people, contractors going to the Horsham Municipal Building, saying that they need a book because they are selling a property or if somebody's buying a property, the book never seems to get back to the repository.

RAB MEMBER: They should not let it go. It should be reference material where you can't take it out.

MR. EDMOND: Because it's our material at Horsham, we have no real control. The idea is to put it on CD. The CDs will be available at the library when it opens and you can scroll through and see millions upon millions of pages of facts, figures, and drawings.

That will adjourn the meeting.

I had the 12th of January for the next meeting. It's another Wednesday. It's three months away. If everybody concurs, we'll see you again after all the holidays.

CPT. CLINE: Jim, thanks. I want to thank everybody for coming. This is one of the most important things we do here on the Air Station for you folks. And Jim thinks he's not coming to the ball, but we'll wait and see about that.

(Whereupon the meeting adjourned at 7:30 p.m.)

- - -

CERTIFICATE

I HEREBY CERTIFY that the proceedings, evidence, and objections are contained fully and accurately in the stenographic notes taken by me upon the meeting taken on October 6, 2004, and that this is a true and correct transcript of same.

Kimberly A. Overwise
Registered Professional Reporter
Certified Shorthand Reporter
Notary Public

(The foregoing certification of this transcript does not apply to any reproduction of the same by any means unless under the direct control and/or supervision of the certifying reporter.)

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